

Amendments to the Claims

Please amend the claims as shown in the following list, which is submitted to replace all prior listings of claims.

1-16. (Canceled.)

17. (Currently Amended): A multi-lumen catheter ~~according to claim 15~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a return passageway and a withdrawal passageway, the withdrawal and return passageways open at the distal and proximal ends of the tube;
- c) return septum extending from the distal end to the proximal end of the tube and dividing the return passageway into first and second return lumens; and
- d) a supporting septum extending from the distal end to the proximal end of the tube and dividing the withdrawal passageway into first and second withdrawal lumens, the supporting septum supportingly engaging the transverse septum to support the transverse septum and deter deflection of the transverse septum,

wherein the withdrawal lumens have a total cross-sectional area greater than or equal to that of the total cross-sectional area of the return lumens.

18. (Currently Amended): A multi-lumen catheter ~~according to claim 15~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a return passageway and a withdrawal passageway, the withdrawal and return passageways open at the distal and proximal ends of the tube;

- c) return septum extending from the distal end to the proximal end of the tube and dividing the return passageway into first and second return lumens; and
- d) a supporting septum extending from the distal end to the proximal end of the tube and dividing the withdrawal passageway into first and second withdrawal lumens, the supporting septum supportingly engaging the transverse septum to support the transverse septum and deter deflection of the transverse septum,

wherein the withdrawal lumens have a combined flow resistance less than or equal to the combined flow resistance of the return lumens so that the total flow rate for blood flowing through the withdrawal lumens does not create a pressure differential sufficient to cause the withdrawal lumens to collapse.

19-23. (Canceled).

24. (Currently Amended): A multi-lumen catheter ~~according to claim 23~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a return passageway and a withdrawal passageway, the withdrawal and return passageways open at the distal and proximal ends of the tube; and
- c) a supporting septum extending from the distal end to the proximal end of the tube and dividing the withdrawal passageway into first and second withdrawal lumens, the supporting septum supportingly engaging the transverse septum to support the transverse septum and deter deflection of the transverse septum,

wherein the return passageway comprises a single return lumen, and wherein the withdrawal lumens have a total cross-sectional area greater than or equal to that of the return lumen.

25. (Currently Amended): A multi-lumen catheter ~~according to claim 23~~ comprising:

a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;

b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a return passageway and a withdrawal passageway, the withdrawal and return passageways open at the distal and proximal ends of the tube; and

c) a supporting septum extending from the distal end to the proximal end of the tube and dividing the withdrawal passageway into first and second withdrawal lumens, the supporting septum supportingly engaging the transverse septum to support the transverse septum and deter deflection of the transverse septum,

wherein the return passageway comprises a single return lumen, and wherein the withdrawal lumens have a combined flow resistance less than or equal to the flow resistance of the return lumen so that the total flow rate for blood flowing through the withdrawal lumens does not create a pressure differential sufficient to cause the withdrawal lumens to collapse.

26-33. (Canceled).

34. (Currently Amended): A multi-lumen catheter ~~according to claim 32~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough, said distal end of the tube having a first beveled surface and a second beveled surface angled away from the first beveled surface;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a withdrawal passageway and a return passageway, the withdrawal passageway open at the first beveled surface at the distal end of the tube, and the return passageway open at the second beveled surface at the distal end of the tube; and
- c) a return septum extending from the distal end to the proximal end of the tube and dividing the return passageway into first and second return lumens,

wherein the withdrawal lumens have a total cross-sectional area greater than or equal to that of the total cross-sectional area of the return lumens.

35. (Currently Amended): A multi-lumen catheter ~~according to claim 32~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough, said distal end of the tube having a first beveled surface and a second beveled surface angled away from the first beveled surface;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a withdrawal passageway and a return passageway, the withdrawal passageway open at the first beveled surface at the distal end of the tube, and the return passageway open at the second beveled surface at the distal end of the tube; and
- c) a return septum extending from the distal end to the proximal end of the tube and dividing the return passageway into first and second return lumens,

wherein the withdrawal lumens have a combined flow resistance less than or equal to the combined flow resistance of the return lumens so that the total flow rate for blood flowing through the withdrawal lumens does not create a pressure differential sufficient to cause the withdrawal lumens to collapse.

36-39. (Canceled).

40. (Currently Amended): A multi-lumen catheter ~~according to claim 39~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough, said distal end of the tube having a first beveled surface and a second beveled surface angled away from the first beveled surface; and
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a withdrawal passageway and a return passageway, the withdrawal passageway open at the

first beveled surface at the distal end of the tube, and the return passageway open at the second beveled surface at the distal end of the tube,
wherein the return passageway comprises a single return lumen, and wherein the withdrawal lumens have a total cross-sectional area greater than or equal to that of the return lumen.

41. (Currently Amended): A multi-lumen catheter ~~according to claim 39~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough, said distal end of the tube having a first beveled surface and a second beveled surface angled away from the first beveled surface; and
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen of the tube and dividing the tube into a withdrawal passageway and a return passageway, the withdrawal passageway open at the first beveled surface at the distal end of the tube, and the return passageway open at the second beveled surface at the distal end of the tube,

wherein the return passageway comprises a single return lumen, and wherein the withdrawal lumens have a combined flow resistance less than or equal to the flow resistance of the return lumen so that the total flow rate for blood flowing through the withdrawal lumens does not create a pressure differential sufficient to cause the withdrawal lumens to collapse.

42-48. (Canceled).

49. (Currently Amended): A multi-lumen catheter ~~according to claim 47~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen and dividing the tube into a return passageway for carrying fluid at first pressure, and a withdrawal passageway for carrying fluid

at a second pressure, said first and second pressures creating a pressure differential across said transverse septum;

- c) a supporting septum engaging said transverse septum and restraining said transverse septum against deflection in response to said pressure differential to substantially prevent collapsing of the transverse septum into the withdrawal passageway; and
- d) a return septum extending from the distal end to the proximal end of the tube and dividing the return passageway into first and second return lumens,

wherein the withdrawal lumens have a total cross-sectional area greater than or equal to the total cross-sectional area of the return lumens.

50. (Currently Amended): A multi-lumen catheter ~~according to claim 47~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen and dividing the tube into a return passageway for carrying fluid at first pressure, and a withdrawal passageway for carrying fluid at a second pressure, said first and second pressures creating a pressure differential across said transverse septum;
- c) a supporting septum engaging said transverse septum and restraining said transverse septum against deflection in response to said pressure differential to substantially prevent collapsing of the transverse septum into the withdrawal passageway; and
- d) a return septum extending from the distal end to the proximal end of the tube and dividing the return passageway into first and second return lumens,

wherein the withdrawal lumens have a combined flow resistance less than or equal to the combined flow resistance of the return lumens.

51-55. (Canceled).

56. (Currently Amended): A multi-lumen catheter ~~according to claim 55~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen and dividing the tube into a return passageway for carrying fluid at first pressure, and a withdrawal passageway for carrying fluid at a second pressure, said first and second pressures creating a pressure differential across said transverse septum; and
- c) a supporting septum engaging said transverse septum and restraining said transverse septum against deflection in response to said pressure differential to substantially prevent collapsing of the transverse septum into the withdrawal passageway.

wherein the return passageway comprises a single return lumen, and wherein the withdrawal lumens have a total cross-sectional area greater than or equal to the total cross-sectional area of the return lumen.

57. (Currently Amended): A multi-lumen catheter ~~according to claim 55~~ comprising:

- a) an elongated cylindrical tube having a distal and a proximal end and a lumen therethrough;
- b) a transverse septum extending from the distal end to the proximal end of the tube within the lumen and dividing the tube into a return passageway for carrying fluid at first pressure, and a withdrawal passageway for carrying fluid at a second pressure, said first and second pressures creating a pressure differential across said transverse septum; and
- c) a supporting septum engaging said transverse septum and restraining said transverse septum against deflection in response to said pressure differential to substantially prevent collapsing of the transverse septum into the withdrawal passageway.

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wherein the return passageway comprises a single return lumen, and wherein the withdrawal lumens have a combined flow resistance less than or equal to the flow resistance of the return lumen.